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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,881

11/08/2005

Uwe Bornmann

2005_0773A

9687

513 7590 07/16/2010

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EXAMINER

KENNEDY, TIMOTHY J

ART UNIT

PAPER NUMBER

1791

NOTIFICATION DATE

DELIVERY MODE

07/16/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/533,881	Applicant(s) BORNMAN ET AL.	
	Examiner TIMOTHY KENNEDY	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8, and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. By way of the amendment filed 4/16/2010 and RCE filed 5/17/2010: claim 1 is amended, claims 2, 8, and 9 were previously presented, claims 3-5 were cancelled, and claims 6 and 7 remain withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 2, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (EP 1101854, already of record), in view of Kampen et al (DE 10002451, using Derwent abstract, herein referred to as Kampen, already of record), Kelb (U.S. Patent 3,601,860, already of record), and Haley (U.S. Patent 4,089,720: already of record). Regarding claim 1, Kobayashi teaches:

6. Depositing melt-spun filaments onto a continuous screen band in a suction zone, wherein the filaments are held onto the screen band by suction (Figure 1 parts 3, 4, 21, 23, 24, and 26: and paragraphs 0015, 0016, 0021, and 0023)

7. Transporting the filaments to a first curing stage (Figure 1, parts 4, 23, and 24, and paragraphs 0016, 0021, and 0023)

8. Hydrodynamically intertwining the filaments in the first curing stage (Figure 1, part 4: high pressure water jet ejector, and paragraphs 0016, 0021, and 0023), wherein the filaments are sufficiently cured such that the filaments may be transported to additional curing stages (curing is a broad term, and thus curing can continue was past the intertwining and onto the take up roller in Figure 1, further Kobayshi also teach an additional curing stage of a drying step: paragraph 16, column 3, lines 33-36) without tension from a take-up roller supporting the screen band (The take up roller 6 does not support the screen band 3 in Figure 1, since they are separated mechanically and physically)

9. Kobayashi does not teach

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10. Having an underpressure of 1 to 100 mbar applied to the filaments
11. Kobayashi teaches suction zones but is silent as to the strength of the suction.
12. In the same field of endeavor Kampen teaches an underpressure of 10-50 mbar (Derwent abstract). Motivation of such underpressure comes from Kelb, who teaches that using underpressure maintains the position of the filaments during transport, and any unwanted moisture can be removed (column 4, lines 63-67)
13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the underpressure as taught by Kampen and Kelb, using the Kobayashi method, since doing so would help ensure the filament positioning during transport.
14. Kobayashi, Kampen, and Kelb do not teach compacting the filaments onto a screen band by a compaction band
15. In the same field of non woven web processing Haley teaches using a compaction band (Figure 1, part 11)
16. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the compaction band of Haley, with the process of Kobayashi, Kampen, and Kelb, since the compaction band will compact the filaments before further processing (Figure 1, part 11 and column 2, lines 12-23 and 54-66)
17. Regarding claim 2, Kobayashi teaches:
18. The method as claimed in claim 1, further comprising guiding the filaments through one or more additional curing stages (A drying step: paragraph 16, column 3, lines 33-36)

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19. Regarding claim 8:

20. Wherein in the first curing stage, the screen band serves as a filter, and water jets act through the screen band, wherein the mesh size of the screen band is $1-8\text{ cm}^{-1}$

21. Kobayashi teaches using a screen band during the hydrodynamic intertwining, but is silent to the mesh size.

22. In the same field of endeavor Kelb teaches a mesh size of 1.5 mm (column 4, lines 69-71). A mesh size of 1.5 mm means that the opening size is 1.5 mm. An opening of 1.5 mm corresponds to a mesh size of roughly 13 openings per inch. Which when converted to metric is 5.12 openings per centimeter.

23. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the mesh size as taught by Kelb, since choosing such as mesh size is obvious to try since there are only so many mesh sizes. It has been shown that a person of ordinary skill has good reason to pursue the known options in their art. If this lead to an anticipated success, it is likely that it was not due to innovation but of ordinary skill and common sense. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1397 (2007)

24. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi, Kampen, Kelb, and Haley as applied to claim 1 above, and in further view of Simpson et al (U.S. Patent 5,023,130, herein after referred to as Simpson, already of record). Regarding claim 9:

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25. Wherein in the first curing stage, the screen band serves as a support and has a mesh size of 10-100 cm⁻¹

26. Kobayashi teaches using a screen band to support the fibers during process, but is silent to the mesh size.

27. In the same field of endeavor Simpson teaches a mesh size of 60 to 150 (abstract). A mesh size 60 to 150 means there are 60 to 150 openings per inch. Which when converted to metric is 23.62 to 59.06 openings per centimeter.

28. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the mesh size as taught by Simpson, using the Kobayashi, Kampen, Kelb, and Haley method, since choosing such a mesh size is obvious to try since there are only so many mesh sizes. It has been shown that a person of ordinary skill has good reason to pursue the known options in their art. If this leads to an anticipated success, it is likely that it was not due to innovation but of ordinary skill and common sense. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1397 (2007).

29. Claims 1, 2, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pike et al (U.S. Patent 5,382,400: herein Pike), in view of Kampen et al (DE 10002451, using Derwent abstract, herein referred to as Kampen, already of record) and Kelb (U.S. Patent 3,601,860, already of record). Regarding claim 1, Pike teaches:

30. Depositing melt-spun filaments onto a continuous screen band in a suction zone, wherein the filaments are held onto the screen band by the applied suction (In Figure 1

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filaments are extruded from part 18 onto forming surface 26, where a vacuum source 30 applies suction through the support so to force the filaments onto the support)

31. Compacting the filaments onto the screen band by a compacting band (Figure 1, part 32: compression roller. A compression roller could be interpreted as a compression band, since a roller has a band of material that rotates around an axis)

32. Transporting the filaments to a first curing stage (the non woven web is transported left to right in Figure 1)

33. Hydrodynamically intertwining the filaments in the first curing stage (column 10, lines 7-14), wherein the filaments are sufficiently cured such that the filaments may be transported to additional curing stages (Figure 1, part 36) without tension from a take-up roller supporting support from the screen band (The take up roller 42 does not support the screen band 26 in Figure 1, since they are separated mechanically and physically)

34. Pike does not teach:

35. Having an underpressure of 1 to 100 mbar applied to the filaments

36. Pike teaches suction zones but is silent as to the strength of the suction.

37. In the same field of endeavor Kampen teaches an underpressure of 10-50 mbar (Derwent abstract). Motivation of such underpressure comes from Kelb, who teaches that using underpressure maintains the position of the filaments during transport, and any unwanted moisture can be removed (column 4, lines 63-67)

38. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the underpressure as taught by Kampen and Kelb, using the Pike method, since doing so would help ensure the filament positioning during transport.

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39. Regarding claim 8:

40. Wherein in the first curing stage, the screen band serves as a filter, and water jets act through the screen band, wherein the mesh size of the screen band is $1-8\text{ cm}^{-1}$

41. Pike teaches using a support band that allows air flow, thus it has some porosity, during the hydrodynamic intertwining, but is silent to the mesh size.

42. In the same field of endeavor Kelb teaches a mesh size of 1.5 mm (column 4, lines 69-71). A mesh size of 1.5 mm means that the opening size is 1.5 mm. An opening of 1.5 mm corresponds to a mesh size of roughly 13 openings per inch. Which when converted to metric is 5.12 openings per centimeter.

43. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the mesh size as taught by Kelb, since choosing such as mesh size is obvious to try since there are only so many mesh sizes. It has been shown that a person of ordinary skill has good reason to pursue the known options in their art. If this lead to an anticipated success, it is likely that it was not due to innovation but of ordinary skill and common sense. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1397 (2007)

44. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pike, Kampen, and Kelb as applied to claim 1 above, and in further view of Simpson et al (U.S. Patent 5,023,130, herein after referred to as Simpson, already of record).

Regarding claim 9:

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45. Wherein in the first curing stage, the screen band serves as a support and has a mesh size of 10-100 cm⁻¹

46. Kobayashi teaches using a screen band to support he fibers during process, but is silent to the mesh size.

47. In the same field of endeavor Simpson teaches a mesh size of 60 to 150 (abstract). A mesh size 60 to 150 means there are 60 to 150 openings per inch. Which when converted to metric is 23.62 to 59.06 openings per centimeter.

48. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the mesh size as taught by Simpson, using the Pike, Kampen, and Kelb method, since choosing such as mesh size is obvious to try since there are only so many mesh sizes. It has been shown that a person of ordinary skill has good reason to pursue the known options in their art. If this lead to an anticipated success, it is likely that it was not due to innovation but of ordinary skill and common sense. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1397 (2007).

Response to Arguments

49. Applicant's arguments filed 4/16/2010 have been considered but are moot in view of the new ground(s) of rejection.

50. The Applicant is correct that Kobayashi does not teach the underpressure and compaction band. However, the use of the claimed amount of underpressure was previously rejected using the Kampen and Kelb references, and have since been combined with Kobayashi into a rejection under 103(a).

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51. The newly added limitation of a compaction band has been found obvious by the use of the Haley reference.

52. The Examiner has also separately rejected claim 1 using the combination of Pike, Kampen, and Kelb, since Pike teaches the use of a compaction band in the production of non woven webs.

53. The Examiner would like to note that the newly amended portion at the end of claim 1, "wherein the filaments are sufficiently cured such that the filaments may be transported to additional curing stages without tension from a take-up roller supporting the screen band", is inherent to the processes used, since the take up roller never applies support to the screen band. The take roller and screen band are separate entities that are only connected by the web.

Conclusion

54. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. PGPub 2003/0134560

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY KENNEDY whose telephone number is (571) 270-7068. The examiner can normally be reached on Monday to Friday 9:00am to 6:00pm (Personal fax number 571-270-8068).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571) 272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

tjk

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 1791